



M E M O R A N D U M

DATE: March 29, 2021
TO: Brad Westall
FROM: Tom Hibbard
RE: Proposed Olentangy Trail North Broadway Crossing

A trail connection to the North Broadway - OhioHealth Parkway crosswalk is an important part of the proposed Olentangy Trail project to improve access to destinations on the west side of the river. This crosswalk provides a connection to the sidepath along OhioHealth Parkway, which connects to the sidepath along Olentangy River Road. These roads provide trail access to many residences, businesses, and services along the west side of the Olentangy River.

Several options were considered as an alternative route for through trail users to bypass the intersection:

1. Route the trail under the existing North Broadway bridge over the Olentangy River
2. Route the trail through a trail tunnel, going under North Broadway, and
3. Route the trail on a new trail bridge, going over North Broadway

Trail under the North Broadway Olentangy River Bridge

The existing vertical clearance under the bridge is 5 feet, which would not be sufficient for the trail. The study team reached out to the Franklin County Engineer's Office and confirmed that there are no plans to replace the bridge in the near future. The trail, however, would be designed so that a future connection could be extended under the bridge for through trail users when the bridge is replaced in the future.

Trail Tunnel under North Broadway

A trail tunnel, under North Broadway, similar to the one recently constructed for the Bethel Road connector, was considered on the west side of the river. The proposed tunnel would

have to be approximately 55 feet west of the North Broadway Olentangy River bridge in order that it does not disturb the bridge or the 78-inch-diameter sanitary sewer running along the west side of the river, as shown in **Exhibit 1**. In order to pass under North Broadway, the bottom of the tunnel couldn't be any higher than 2.5 feet above the normal water elevation of the Olentangy River, which is one foot lower than the ordinary high water mark. This will cause the tunnel to flood during high water events along the river without pumping and special provisions to protect it from water intrusion.

The trail approaching the ends of the tunnel would require retaining walls to protect the North Broadway embankments, the northeast corner of the OhioHealth building, and minimize regrading of these areas. The southern retaining wall would have a maximum height of 10 feet and would need to be constructed over the 78-inch sanitary sewer, which would not likely be approved by the Department of Public Utilities since this would prevent future access to the sewer for repairs. The retaining walls add to the proposed cost for this option.

The tunnel option was not considered feasible due to frequent flooding that would occur (requiring through trail users to use the crosswalk at the North Broadway - OhioHealth Parkway intersection during high water events) and the need to construct a retaining wall over the existing sanitary sewer, preventing access to the sewer for future repairs. The estimated construction cost of the tunnel is \$1.7 million, which is in excess of the total available funding for the project.

Trail Bridge over North Broadway

A trail bridge over North Broadway was also considered for through trail users. The bridge would need to provide 16.5 feet of minimum vertical clearance over North Broadway to allow for trucks to pass underneath it. Since North Broadway is over 10 feet higher than the surrounding ground in the wooded areas to the north and south, long approaches would be required to get over the roadway using a maximum 5% grade, meeting ADA requirements. Since these approaches are located in the Olentangy River floodplain, these elevated approaches are anticipated to be part of the bridge and supported by piers in order to minimize floodplain impacts. Including these approaches, the total bridge length is anticipated to be 1,050 feet long, extending from the west end of the planned Olentangy River trail crossing, north of North Broadway, to the east side of the OhioHealth parking lot, 700 feet south of North Broadway.

The height and scale of the bridge would dominate the view above North Broadway, immediately adjacent to the OhioHealth office building. The length of the bridge would also interfere with direct access to provide emergency assistance to trail users on the bridge, should it be needed. First responders could only access the trail by following a circuitous route to the end of the bridge and then traveling along the bridge itself to the site where needed.

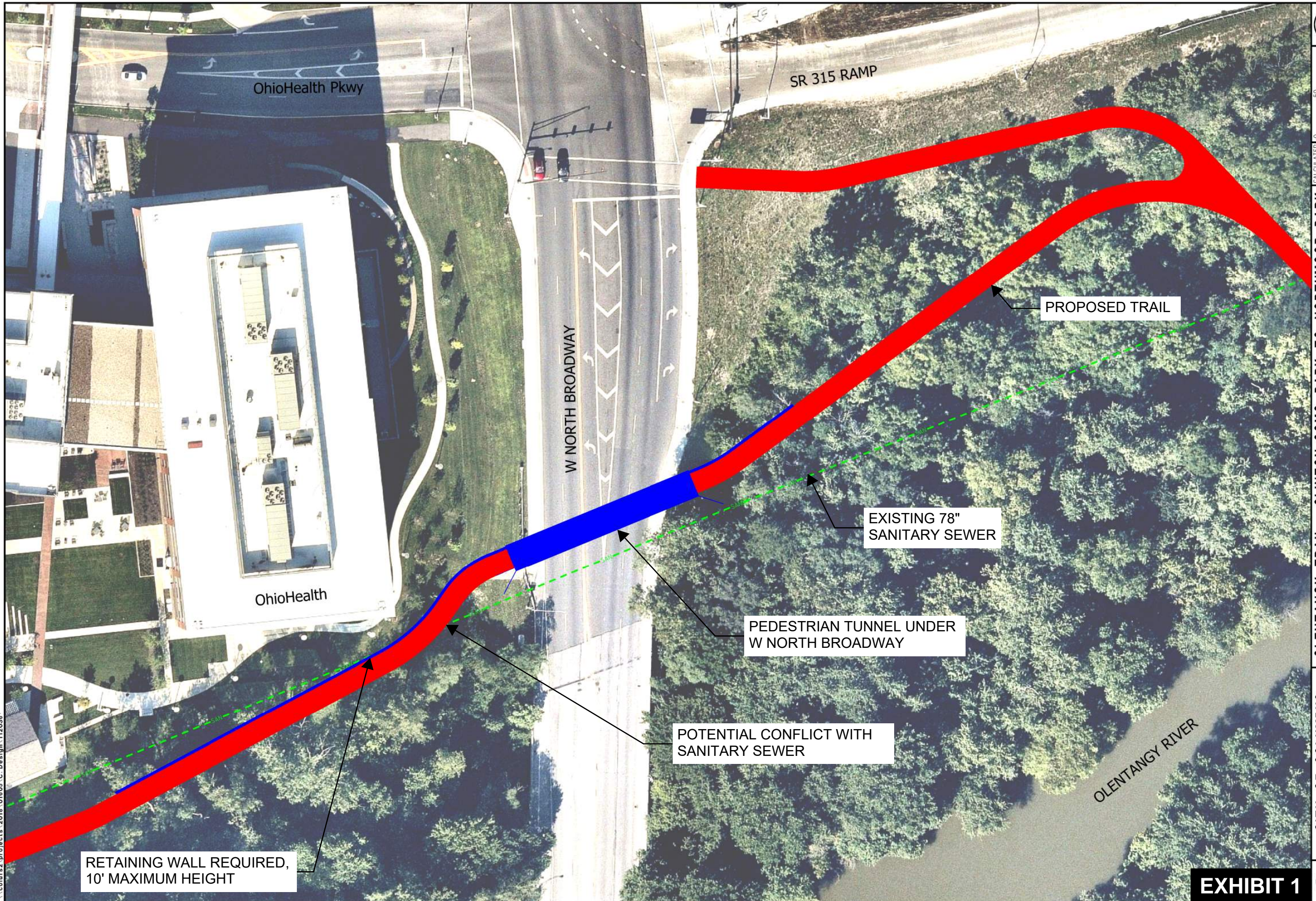
The proposed bridge piers would need to be constructed to provide adequate clearance from the existing 72-inch diameter sanitary sewer along the west side of the river.

Coordination with the Department of Public Utilities is necessary to confirm that adequate clearance can be provided.

Tree clearing in the floodplain would be required under the entire route of the bridge, north of North Broadway. This would be significantly more trees removed than the other proposed alternatives and would require additional mitigation to comply with the City's Tree Protection and Mitigation Policy (Executive Order 2015-01).

The total construction cost of the bridge over North Broadway is anticipated to be \$6.25 million, which would more than double the estimated construction cost and available funding for the project.

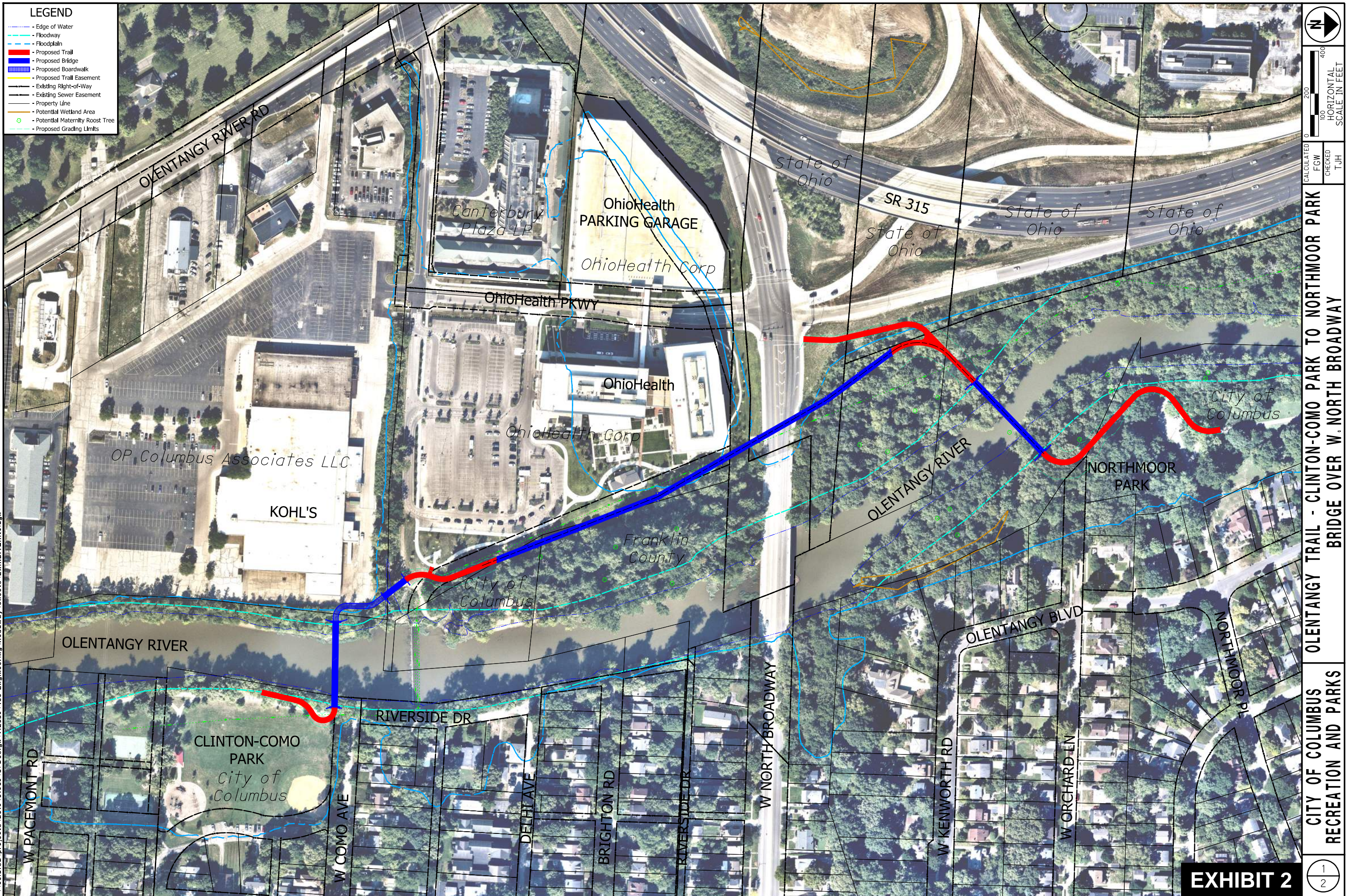
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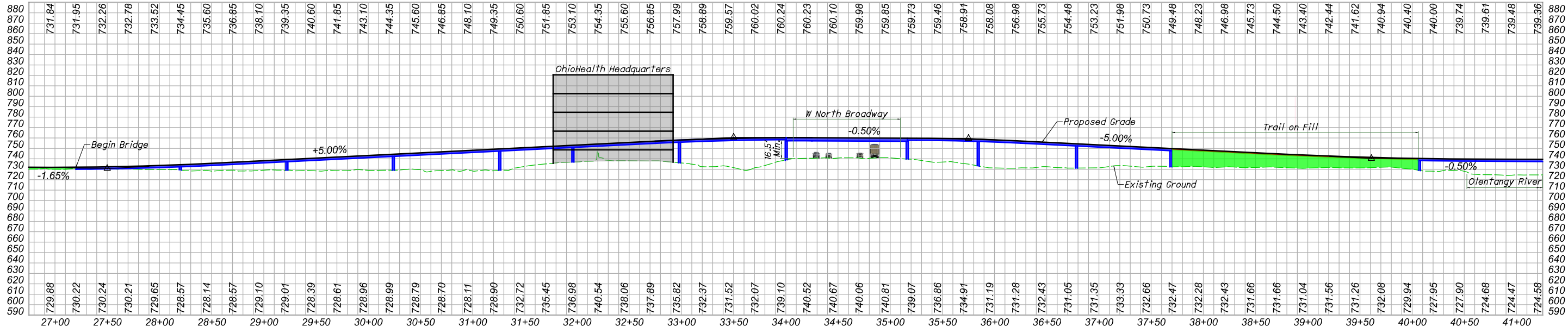


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EXHIBIT 1

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OLENTANGY TRAIL - CLINTON-COMO PARK TO NORTHMOOR PARK
BRIDGE OVER W. NORTH BROADWAY

DESIGN AGENCY

DESIGNER
FGW

REVIEWER
TJH 3-03-21

PROJECT ID

SHEET	TOTAL
2	2

EXHIBIT 3